New Bedford Harbor Superfund Site (NBHSS)
Cleanup Strategy Meeting
January 31, 2017
Sawyer Street Site Office
DRAFT Meeting Outcomes and Action Items

Meeting Participants

USACE NAE	**EPA**	**Jacobs**	**Battelle**
Ellen Iorio	Dave Lederer	Anita RigassioSmith	Patty White
Marie Esten	Dave Dickerson	Steve Fox	Deirdre Dahlen
Tim Rezendes	Hoshaiah Barczynski	Mark Gouveia	**Lally Consulting**
Kevin Coleman	**MADEP**	Jon Blount	John Lally
Jess Rudd	Paul Craffey	Beth Anderson	**Harrington E&C Inc.**
Nathan Mangelson		**Sevenson**	Tim Harrington
		Joe Mahoney	

Handouts were provided to all meeting participants. Meeting materials are available on the NBH Share Point site. The meeting notes below focus on key discussion and decision points. Action items are summarized in a table attached to the notes.

Introduction

- The primary meeting objective is to continue the discussions from the previous cleanup strategy meeting (January 19, 2017).

FOCUS TOPICS

1) Update on Subtidal SWAC Evaluations

- Jacobs provided an update of the SWAC refinements and volumes
- RAL of 30 ppm yields subtidal SWAC of 10 ppm without final cover
    - Some areas exceed RAL at depth, but not at the surface (confirm during data gap sampling)
- Test scenario modeled leaving 3 ft of water at MLLW to protect potential final cover/cap from ice scour (based on Fox River); this assumption expected to be conservative for New Bedford Harbor site (anecdotal information suggests less than 1 foot of ice observed over last decade)
- Consider updating test scenario to assume 2 ft of water at MLLW; USACE Cold Regions Research and Engineering Laboratory (CRREL) may be resource
- Sand cover as residuals management also reduces SWAC (e.g., Fox River). Long-term monitoring would be required if isolation cap left in place, but not required when applying thin cover for residuals management.
- Material from Area T' will not be placed in the LHCC. Assume dredge 3 feet and cover.
- See Action Items table for requested updates to SWAC model outputs and additional scenario runs, as well as upcoming meetings to discuss confirmatory sampling approach for subtidal areas of the Upper Harbor

Hybrid Equipment Update

- Jacobs provided an update on the hybrid dredge plant design
- Mechanical dredge with hydraulic pump system; two dredge plants including:
    - Dredge plant with smaller bucket (3 yards) to work in shallow areas
    - Dredge plant with larger bucket (5 yards)
- Capacity of processing plant should be adequate to manage two dredge plants (target 700 cy per 12-hr day); would need more space at Area D to increase capacity.
- Lally review of comprehensive dredge plan (and dredge plant design) in progress; discussed preliminary comments such as
    - utilize line and anchor method or kicking spud for lane advancement to minimize residuals
    - incorporate means to regulate water added to optimize solids content
    - consider collecting geotechnical data (e.g., grain size and bulk density) during subtidal data gap sampling
- Schedule and lead times
    - Hybrid dredge plant could be ready within about 6 weeks from approval of final design (~April)
    - Procurement process needs more time; also contingent on EPA approval of comprehensive plan (~late summer/early fall)

2) Update on Intertidal Evaluation

- Jacobs provided an update on the intertidal evaluations for the Upper Harbor (mapping and volumes)
    - Green areas delineated using parcel boundaries
    - Cleanup areas delineated (by hand) using a Not to Exceed (NTE) value of 50 ppm for the 0-1 ft bgs sediment layer on the East side of the harbor. Residential areas will be further refined.
    - Some areas with higher contamination in sub-surface compared to surface (confirm during data gap sampling) on the West side. West side contours drawn for 25 ppm in first foot and 50 ppm below. Last meeting EPA confirmed that the intertidal zones on parcels now residential would remain at the 25 ppm/50 ppm cleanup ~~levels, not 1 ppm~~.
- Riverwalk will not be remediated ~~unless contamination above the cleanup level extends~~ to those areas
- Jacobs will ground-truth remediation costs for Parcel 265 (plan vs. actual) vs. estimate for Pierce Mill Cove
- Intertidal remediation activities will begin in the Lower Harbor after remediation at Pierce Mill Cove is complete
    - Will need to develop work plans, identify access points, conduct data gap sampling, etc.
    - Confirm intertidal volume for Lower Harbor (including Marsh Island)
    - Confirm land use and associated TCL.
- See Action Items table for requested updates to intertidal maps and volume estimates, as well as upcoming meetings to discuss cleanup levels

3) Additional Considerations

- Cost to Complete estimate should include interim cap (AVX) costs only (not overall capping costs)
- EPA requested that Jacobs look at boing logs from Pierce Mill Cove to see if a borrow pit for beneficial reuse is feasible at Pierce Mill Cove
    - Remove 10 to 15 ft of silt
    - Jacobs will review old sonic coring data from this area

WRAP UP AND NEXT STEPS

- Data gap sampling to further delineate subtidal and intertidal cleanup areas
    - Jacobs will propose locations for subtidal data gap sampling at selected areas in the Upper Harbor (Cable Crossing, Pierce Mill Cove east and P10); data will also be used to refine the SWAC model
- Jacobs, Sevenson, Harrington and Lally continue to work through comments/updates to the comprehensive dredge plan and Jacobs report out on status at the next meeting
- Additional meetings will be scheduled to discuss
    - Compliance demonstration areas (CDAs) and confirmatory sampling approach for subtidal areas of the Upper Harbor
    - Cleanup levels used to guide remediation (e.g., NTE levels) and confirmatory sampling for intertidal zone

Action Items and Next Steps

- See attached action item table.
- Incomplete action items from previous meetings are also included.

Next cleanup strategy meeting date February 16, 2017.

MEETING ADJOURNED.

New Bedford Harbor Superfund Site
Cleanup Strategy Meeting Action Items
Updated 2/10/2017

Number	Meeting Date	Action Item	Responsible Organization	Status
1/31/17 Meeting				
1	1/31/17	Update RAL maps (slides 5-7) to define orange, light blue and dark blue lines; ensure that lines (color code) are consistent across all maps	Jacobs	
2	1/31/17	Update SWAC cleanup curve (slides 8 and 9) to include additional RALs of 125, 100, 75 and 50 ppm	Jacobs	
3	1/31/17	Update RAL removal volumes table (slide 10) to include 3-4 ft 50 ppm scenario if sufficient data available (i.e., cable crossing area)	Jacobs	
4	1/31/17	Confirm acreage for backfilled areas (green areas on slide 11) and what concentration used for final surface (0 or 10 ppm)	Jacobs	
5	1/31/17	Run additional SWAC cleanup scenarios to assist with decision making, including • Re-run the covering scenario with 2 ft of dredge depth and 2 ft of water at MLLW, then calculate SWAC • Dredge with RAL=50 then use dredge depth and water depth criteria to apply cover; then calculate SWAC • Remove all areas designated for LHCC and assume final surface concentration of 10 ppm. Take out Areas T and T' and set surface conc = 0 ppm. • For 50 ppm RAL scenario, re-run assuming all red areas (>3-ft dredge) become green or yellow	Jacobs	
6	1/31/17	Track volumes going to LHHC under various SWAC cleanup scenarios	Jacobs	
7	1/31/17	Confirm intertidal volume for Lower Harbor, including Marsh Island. Confirm land use and adequacy of data points.	Jacobs/EPA	
8	1/31/17	Ground-truth cost of Parcel 265 (plan vs. actual) vs. estimate for Pierce Mill Cove	Jacobs	

Number	Meeting Date	Action Item	Responsible Organization	Status
9	1/31/17	Update intertidal maps to show: • mosquito ditches (currently obscured by green filled areas) • previously-identified access roads Confirm Riverwalk area depicted on maps consistent with conceptual drawings from Farland Corp. site plans	Jacobs	
10	1/31/17	Schedule a separate meeting to discuss cleanup levels (e.g., Not to Exceed value for cleanup) and confirmatory sampling compliance requirements for intertidal properties	USACE	
11	1/31/17	Schedule a separate meeting to discuss CDAs and confirmatory sampling approach for subtidal areas of the Upper Harbor	USACE	Smaller working group to develop approach for consideration
12	1/31/17	Jacobs look at feasibility of constructing borrow pit at Pierce Mill Cove	Jacobs	
12/16/16 Meeting				
1	12/16/16	Schedule a separate meeting to summarize the performance of the PCB IA method to date, evaluate IA uncertainty, and discuss data use moving forward.	USACE/Battelle	Jacobs/Battelle discussed options for adjusting IA data for SWAC model
2	12/16/16	Schedule a separate meeting with EPA to explain details of the kriging model and methods.	EPA/USACE/Jacobs	Completed.
3	12/16/16	Update the kriging model for the Upper Harbor with additional core data (e.g., Phase 4 cores).	Jacobs	Completed.
4	12/16/16	Continue to refine Upper Harbor subtidal SWAC model	Jacobs	Ongoing.
5	12/16/16	Determine boundary between subtidal and intertidal kriging/SWAC models (esp. where intertidal mudflats will be subtidal after excavation)	EPA (Elaine)	
6	12/16/16	Update the x-axis of the subtidal SWAC cleanup curve with volume or cost.	Jacobs	Updated x-axis with acres remediated and volume removed; presented at 1/31/17 meeting
7	12/16/16	Calculate a pre-dredge subtidal SWAC.	Jacobs	Completed (144 ppm); presented at 1/31/17 meeting
8	12/16/16	Identify remedial design data needs to be addressed through modeling, and determine modeling objectives/approach	Jacobs/ Harrington/ Lally	Depends on final remediation approach
9	12/16/16	Identify data gaps in horizontal and vertical characterization data for subtidal kriging/SWAC model	Jacobs	In progress

Number	Meeting Date	Action Item	Responsible Organization	Status
10	12/16/16	Investigate using EPA technical support (e.g. Robert Ford) for potential seepage assessment near Aerovox.	EPA	
11	12/16/16	Identify other remedial design data gaps based on Comprehensive Plan	Jacobs/ Harrington/ Lally	
12	12/16/16	Update intertidal kriging model to account for the mosquito ditches and calculate SWACs	Jacobs	Overcome by events – using manual delineation method.
13	12/16/16	Identify intertidal characterization data gaps to reduce kriging model uncertainty	Jacobs	
14	12/16/16	Clarify confirmatory sampling compliance statistics for eastern saltmarsh properties (i.e., average/SWAC versus 95 UCL) and whether to apply a not-to-exceed concentration.	EPA	
Previous Meetings				
14	11/17/16	Calculate the uncertainty for the bathymetric differencing exercise and clarify whether the difference between the overall dredge volume estimates from the bathymetric differencing and dredge season reports is within the uncertainty.	Jacobs	
15	5/16/16	Web-based planning tool: link core locations to core photos.	Jacobs	In progress; need to obtain some of the core photos

1/31/2017

Cleanup Status Meeting

Name	Organization
[illegible]	USACE
Patty White	Battelle
Jess Bond	USACE
Joe Mahoney	Sevenson
Steve Fox	Jacobs
Deirdre Dahlen	Battelle
MARK Gouveia	JACOBS.
TIM HARRINGTON	HE&C
Terri Anderson	JACOBS
Marie Esten	USACE
Dave Dickerson	EPA
DAVE LEDERER	EPA
Hoshaiah Barczynski	EPA
John Lally	LALLY
[illegible]	[illegible]
Nathan Mangion	USACE
TIM REZENDES	USACE
ANITA RIGASSIO SMITH	JACOBS
Jon Blount	Jacobs
Paul Craffey	MassDEP